



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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March 31, 1997

Rick Havenstrite
Centurion Mines Corporation
331 South Rio Grande Street, Suite 201
P.O. Box 2365
Salt Lake City, Utah 84110

Dear Mr. Havenstrite:

Re: Tentative Approval of the Notice of Intention to Commence Large Mining Operations,
Centurion Mines Corporation, O.K. Copper Mine, M/001/039, Beaver County, Utah

Dear Mr. Havenstrite:

The Division has completed its assessment of your January 7, 1997, response to our December 6, 1996 review letter. We have also evaluated the supplemental information provided more recently to address questions regarding heap closure and related bonding concerns. The Division is now prepared to issue its tentative approval of the O.K. Copper Mine Large Mining Notice of Intention with the condition that the few remaining technical comments be clarified. These comments are listed separately under the applicable Minerals Rule heading as an attachment to this letter. Please format any required responses in a similar fashion.

In order to present this matter before the Board at the April 23, 1997 Board Hearing, we will need the completed Reclamation Contract and Surety forms in our office no later than **April 10, 1997**. These final clarifications must also be resolved and/or confirmed by this date. Thank you for your cooperation in completing this permitting action. If you have any questions in this regard please contact me or any of the other Minerals staff members.

Sincerely,

for D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

jb

Attachment

cc: Craig Davis, Beaver County Zoning Authority
Dennis Frederick, DWQ
Mary Ann Wright, DOGM

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**REVIEW OF CENTURION'S JANUARY 7, 1997 RESPONSE
NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS**

Centurion Mining Company
O.K. Mine

M/001/039

R647-4-106 - Operation Plan

106.3 Estimated acreages disturbed, reclaimed, annually.

The response under section R647-40106.3 states the total disturbed area for the project will be 275 acres and the total area to be reclaimed is 198 acres. A summation of the acreages listed in the table in this section equals approximately 189 acres. The draft table provided by Centurion in the March 21, 1997 fax, contained some discrepancies in the total columns. The draft table gave a total reclaimed area for the waste dumps as 78.9 when a summation of the table values gave 82.4 acres. The draft table gave a total disturbed area for pits as 84.4 acres and a summation gave 86.4 acres. Similarly the draft table gave a total reclaimed area for pits as 10.8 acres when a summation gave 9.3 acres. These summation figures would give a total disturbed figure of 277.1 acres and a total reclaimed figure of 200 acres rather than the figures of 275.1 acres and 198.0 acres in the draft table, respectively. Please examine the values shown in the table below and provide us with verification or corrections regarding all the values shown. (AAG)

	Phase 1		Phase 2		Phase 3		Total	
	Disturbance	Reclaimed	Disturbance	Reclaimed	Disturbance	Reclaimed	Disturbed	Reclaimed
Roads	11.3	11.3	0	0	7.7	7.7	19.0	19.0
Waste Dumps	18.1	18.1	48.1	48.1	14.2	14.2	82.4	82.4
Pits	7.8	1.1	11.0	2.0	67.6	6.2	86.4	9.3
Heap Leach Pad and Ponds	69.9	69.9	0	0	0	0	69.9	69.9
Process Plant								
Misc.*	19.4	19.4	0	0	0	0	19.4	19.4
Total	126.5	119.8	59.1	50.1	89.5	28.1	277.1	200.0

* Includes:

R647-4-112 - Variances

R647-4-111.7 - Highwalls - The Division will grant a variance allowing highwalls in the OK Pit and Mary 1 Pit to remain at angles steeper than 45 degrees at final reclamation. The variance is granted based upon the additional information provided regarding highwall stability. (AAG)

R647-4-111.9 - Dams and Impoundments -The Division will grant a variance to allow the pond to remain in place due to its small size and based on its ability to sustain a riparian habitat and its overall benefit to an arid environment. (TM)

R647-4-111.12 - Topsoil Redistribution - The Division will grant a variance from topsoil redistribution requirements on pit highwalls (@55 degree angles and solid rock) and the "unaccessible" benches. It is the Division's understanding that all 'accessible and safe' benches and the pit floors will be topsoiled and revegetated. The Division encourages Centurion to contemporaneously reclaim the pit benches as mining progresses to minimize the number of benches that are left "unaccessible" upon mine closure. (LK)

R647-4-111.13 - Revegetation - The Division will grant a variance from the 70% revegetation cover requirement for the pit highwalls and 'unaccessible' benches. It is the Division's understanding that all 'accessible and safe' benches and the pit floors will be topsoiled and revegetated and that contemporaneous reclamation will be used where practical. (LK)

R647-4-113 - Surety

The Division has prepared a revised reclamation cost estimate for **Phase 1 disturbances only** based on recent discussions and submissions from Centurion. A copy of this revised estimate is attached. The significant change to the estimate was the addition of assumed costs for rinsing 20% of the total amount of ore to be placed on the heap during the proposed life of mine. The rinse parameters assumed by the Division are shown in the estimate.

The State Division of Water Quality (DWQ) will issue a Ground Water Discharge Permit for this operation. Their permitting process uses a phased permitting approach. A conceptual decommissioning and closure plan must be approved by DWQ before beginning construction of the heap leaching facilities. The details of this plan may result in changes/revisions to the decommissioning and closure costs as outlined in the current reclamation cost estimate. Any such changes to the existing closure/reclamation plan would also require appropriate adjustments to the amount of reclamation surety held by the Division.

Centurion has agreed to develop and implement a sampling and characterization plan including lab scale studies which will form the basis for more detailed heap leach neutralization specifications. Additional characterization and neutralization data will be generated during the initial phases of mine development (first 18-24 months). This information will be periodically evaluated by the Division and DWQ. A decision to require appropriate changes/adjustments to the proposed closure/neutralization plan and reclamation surety may be required as a result of these periodic reviews and/or DWQ's eventual approval of a conceptual closure plan for the project facilities.

The mining of the O.K. Copper Mine will occur in Phases and be bonded in Phases. This tentative approval relates to the first phase of mining operations which involves the construction

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March 31, 1997

of the full heap leach pad and process plant and the mining of existing stockpiled ores. Before Phase 2 or Phase 3 operations begin, Centurion will need to provide the Division with additional surety to cover the projected reclamation costs for the proposed disturbances.

Additional Condition:

Within 30 days of your receipt of this tentative approval, a completely revised and updated permit application must be received by the Division. This updated volume must incorporate all of the subsequent technical information which was prepared and submitted as a result of the overall permit review process.

Attachment: Reclamation Estimate
M01-39-2.rvw

RECLAMATION ESTIMATE

Centurion Mines Corporation

last revision

03/21/97

OK Mine - Phase 1 ONLY

filename M01-39.WB2

page "phase 1"

M/001/039

Beaver County

Prepared by Utah State Division of Oil, Gas & Mining

Details of Final Reclamation

- This estimate is a revised version of the Centurion estimate included in the Jan. 7, 1997 submission
- This estimate is for reclamation costs for Phase 1 disturbances only!
- 20% of the total ore on the heap is assumed to require rinsing with water & lime at the time of final recl
- Heap slopes at working angle sof 2.5h:1v will be graded to 3h:1v, topsoiled & seeded
- Dump slopes at the angle of repose will be graded to 3h:1v, topsoiled & seeded
- Solutions in the ponds will be evaoprated & remaining sludges analyzed & disposed of appropriately
- All structures & facilities will be demolished & removed; asphalt & concrete debris buried onsite
- Improved pre-existing roads will be reclaimed to a 15 foot width
- Road reclamation will included regrading, ripping, topsoiling & seeding
- All disturbances except pit highwalls will receive one foot of topsoil
- Pit bottoms & their access roads will receive topsoil & be seeded
- Pit highwalls will be allowed to remain at angles steeper than 45 degrees; no topsoil or seeding
- Proposed total disturbance for Phases 1-3 of the OK Mine = 275.00 acres
- Estimated total disturbed area for Phase 1 - OK Mine = acres
- Total disturbed area to be reclaimed = 128.00 acres

Activity	Quantity	Units	\$/unit	\$	notes
Mobilization				636	(1)
Regrading				22,193	(1)
Removal of structures				42,950	(1)
Topsoil replacement				170,065	(1)
Contour scarification				9,256	(1)
Seed & planting				15,169	(1)
Revegetation monitoring (none in Phase 1)				0	(1)
Project supervision				13,368	(1)
subtotal				273,637	

Leach Pad - 53 Acres

Rinse Heap - assumed rinsing 20% of total ore using the volume & rate shown below

ASSUMPTIONS: 1.25lb lime per ton of ore; 120 gal water per ton ore; apply water at 1,000 gpm

	tons ore	gal h2o/tn	h20 gpm	#days	#months		
	2,000,000	120	1000	166.7	5.6		
lime (1.25 lbs/ton)x(\$0.025/lb)x(10M ton)x(20%)	2,000,000	ton		0.031		62,500	(2)
generator rental	6	month		830		4,980	(3)
generator fuel, oil, maintenance	6	month		5,868		35,208	(4)
pump rental & maintenance	6	month		1,230		7,380	(5)
rinse supervisor	24	weeks		856		20,544	(2)
rinse laborers	2	6 month		2,588		31,056	(2)
miscellaneous supplies/piping/vehicles, etc.		6 month		1,000		6,000	(6)
subtotal for heap rinse & evaporation						167,668	
						Subtotal	441,305
						10% Contingency	44,131
						Subtotal	\$485,436
						Escalate for 5 years at 2.52% per yr	64,326
						Total	\$549,762

Rounded surety amount in yr 2002-\$

\$550,000

Average cost per disturbed acre =

\$4,297

PHASE 1

Average cost per disturbed acre =

Rounded surety amount in yr 2002-\$

\$4,297

\$550,000

PHASE 1

OK Mine
M/001/039
notes

Beaver County

filename M01-39.WB2

last revision

03/21/97

page phase 1

- (1) taken from summary of reclamation cost page in Centurion estimate
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- (2) unit cost used in previous estimate M/037/088
- (3) Rental Rate Blue Book, 60KW, 107 hp, diesel generator, monthly rental
- (4) Rental Rate Blue Book, 60KW, 107 hp, diesel generator, monthly operating cost
- (5) Means Heavy Construction Cost Data 1997, 152-430-3180, 6"D x8"S, 60 hp pump
- (2) unit cost used in previous estimate M/037/088
- (2) unit cost used in previous estimate M/037/088
- (6) DOGM estimate